WINTER RECREATION SAFETY

- **Avalanche Safety Increases Enjoyment, Saves Lives**

- **Before You Go…..**

1. **Take an avalanche safety course or clinic. These educational opportunities provide invaluable hands-on experience in personal safety and rescue techniques. (The National Ski Patrol offers excellent Basic Avalanche and Advanced Avalanche Courses for a minimal fee.)**

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2. **Read up on avalanches.**
   Supplement what you've learned in the courses by getting as much additional information as you can.

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3. **Learn to recognize avalanche terrain. Most avalanches travel in paths, on smooth exposed slopes of between 25 and 60 degrees, but there are many exceptions. Understand the significance of various terrain features, including slope angles, rocks, cornices and other wind-snow formations, ledges, and vegetation.**

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4. **Practice searching for your companions' avalanche transceivers. Rehearse this until everyone you'll be traveling with feels confident about his or her ability to locate each beacon as quickly as possible. It takes only one incident to realize the importance of this level of preparation.**

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5. **Do your homework. Research your route and snow conditions in the exact location(s) you plan to ski. Call your local avalanche warning center and check the current and forecasted weather before heading into the backcountry. Be prepared to adjust plans and/or routes accordingly.**
6. **Remember and anticipate the "Human Factor," that is, the fact that people may exhibit undesirable behavior in stressful situations. Your attitude and those of your companions can often mean the difference between a safe trip and catastrophe. Make sure you travel with people who have similar goals and attitudes.**

WINTER RECREATION SAFETY

- **Once You're There…**

1. **Always carry avalanche equipment, including avalanche transceivers, probes, and shovels (in addition to basic camping gear, extra clothing, high-energy food, and plenty of water). Every member of the group needs to carry all three of these avalanche rescue items, and know how to use them.**

WINTER RECREATION SAFETY

Once You're There…

2. **Be aware of your surroundings**. Stay alert, and be on the lookout for information about the environment that indicates potential for a slide. This includes recent avalanche activity and changes in terrain, snowpack, and weather.
3. **Analyze snowpack stability.** As with studying terrain features, reading snowpack takes years of experience. There are, however, several tests that reveal the layers of a snow field and can help assess risks involved with unstable snow. These include ski-pole tests, snowpit tests, resistance tests, and "shear" tests. In the National Ski Patrol's avalanche courses, students learn how to conduct these tests and have the opportunity to see the snowpack firsthand.

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Once You're There...

4. **Cross potential avalanche slopes one at a time. If you doubt a slope's stability but still intend to cross it, only expose one person at a time to the potential for danger. When climbing or traversing, each person should be at least 100 yards from the next person. Travelers should climb steep narrow chutes one at a time, and when descending the slope, ski it alone. This not only minimizes the number of people who might get caught (and maximizes the number of people available for rescue), but it also reduces the stress put on the snowpack.**

WINTER RECREATION SAFETY

- **Once You're There…**

5. Have the courage to know when you shouldn't go.

WINTER RECREATION SAFETY

- **General Rules Of The Road … (additional common sense tips)**

1. **Don't overlook clues. Evidence of potential avalanche hazards will be there, so pay attention. If you educate yourself and communicate with your companions, you should have the tools needed to make smart decisions in the backcountry.**

WINTER RECREATION SAFETY

- **General Rules Of The Road … (additional common sense tips)**

2. **Try to avoid traveling in the backcountry alone. Also, never leave the group. Otherwise, if you run into trouble, you'll be on your own.**
3. **Don't assume avalanches occur only in obvious large paths. While most slides travel on broad, steep, and smooth slopes, they can also wind down gullies or through forested areas. Remember, if you can ski or snowboard through it, an avalanche can slide through it.**

WINTER RECREATION SAFETY

- **General Rules Of The Road … (additional common sense tips)**

4. **Never travel in the backcountry on the day after a big storm. Allow the snowpack to settle for at least 24 hours.**
5. **Don't assume a slope is safe because there are tracks going across it. Wind, sun, and temperature changes are constantly altering snowpack stability. What was safe yesterday (or this morning) could slide this afternoon. Further, when you cross a slope, you apply stress to the snowpack, which can cause it to slide.**
6. **Don't assume you're safe just because you're wearing a transceiver. Assumptions like these can get you killed in the backcountry.**

WINTER RECREATION SAFETY

- **General Rules Of The Road ... (additional common sense tips)**

7. **Don't allow your judgment to be clouded by the desire to ride the steepest pitch or get the freshest snow. Staying alive is much more important.**
8. **Don't hesitate to voice concerns or fears.**

WINTER RECREATION SAFETY

- **General Rules Of The Road ... (additional common sense tips)**

9. **Don't consider yourself an avalanche expert just because you've taken a lot of courses and traveled extensively in the backcountry. What you don't know can and will kill you. A 'know-it-all' arrogance can kill you.**

WINTER RECREATION SAFETY

Avalanche!

- Avalanches are most common on slopes of between 30 and 45 degrees.
- Storms nearly always increase avalanche danger considerably. Most avalanches occur during or just after storms. Storms with sustained winds above 15 mph and/or heavy snowfall (more than one foot) are common and typically push the avalanche danger into the "extreme" zone.
- Ensure a safe and enjoyable outing by checking on avalanche conditions before you go.
- Know avalanche safety before you go.

WINTER RECREATION SAFETY

- **Avalanche!**
  - **The most important aspect of avalanche safety is trying to get a sense of when and why an avalanche may occur.**
  - **Avalanches occur when new snow accumulates on old layers of snow. When the new snow doesn't bond well, unstable conditions develop. It becomes most acute with heavier accumulations of snow, 8, 10 or 12 inches or more. Couple a big snowfall with a variety of other conditions like wind, temperature, terrain, weak or heavy layers and a trigger, like people, and the danger increases considerably.**

WINTER RECREATION SAFETY

- **Avalanche!**
  - **Winter sports enthusiasts should have safety on their minds before they even leave the house.**
  - **Before going out, check the area's Web site for avalanche warnings or call avalanche hot lines.**
  - **Contact a ranger for daily weather and avalanche hazard forecasts, maps of areas to avoid, and general avalanche information.**
  - **But, remember conditions are constantly changing.**

WINTER RECREATION SAFETY

- **Avalanche!**
  - **Take time to examine snow conditions and possible danger areas to avoid possible avalanche situations.**
  - **Avalanches typically occur on slopes between 30 and 45 degrees. Therefore, it is a good idea to carry a slope meter, an inexpensive tool to determine the pitch.**

WINTER RECREATION SAFETY

- **Avalanche!**
  - **While a huge snowfall may be a cause for celebration, it should also be a red flag that unstable conditions may exist.**
  - **If you aren't sure or suspect unstable snow, utilize lower-angle terrain. First ski on slopes less than 25 degrees and listen for cracks and feel for vacillation to get an idea about the state of the snow danger.**

WINTER RECREATION SAFETY

- **Avalanche!**
  - **You need to be properly equipped. Have a shovel, a collapsible ski pole probe and a transceiver.**
  - **Know how to use your equipment.**

WINTER RECREATION SAFETY

- **Avalanche!**
  - **Have a transceiver. Practice using it. It's not the kind of situation where you figure out how to use it when someone is buried.**
  - **Recovery time is absolutely crucial. When someone is buried, every second counts.**
  - **Time spent figuring out equipment brings those buried closer to death. Snow sets up like concrete and it is next to impossible to dig yourself out.**

WINTER RECREATION SAFETY

- **Avalanche!**
  - **Three-quarters of victims die from asphyxiation or breathing their own carbon dioxide.**
  - **One-quarter of those buried die from injuries sustained while in the slide, by hitting rocks or trees.**
  - **A mere 2 percent live long enough to die from hypothermia. And half of those completely buried, die within the first 25 minutes; 95 percent die within two hours.**

WINTER RECREATION SAFETY

- **Avalanche!**
  - Dry slab avalanches, which account for most avalanches, travel at about 60 to 80 miles per hour within roughly five seconds.
  - Dry slab avalanches are likened to a pane of glass or a magazine sliding off an inclined table with a person standing in the middle of it.
  - Wet slabs travel slightly slower at about 20 miles per hour.

WINTER RECREATION SAFETY

- **Avalanche!**
- Only one in three people buried without a beacon survives.
- However, when caught it is best to try to escape to the side of it, grab on to a rock or tree.
- If that fails, ditch your equipment and swim with the avalanche, trying to stay on top.
- When the avalanche stops moving try to make an air pocket before it sets or reach to the top to lend others in your party a visual clue of your location.

WINTER RECREATION SAFETY

- **Avalanche!**
  - **While hiking, cross potential avalanche areas one person at a time.**
  - **Avoid positioning yourself below a potential slide. Also, climb or descend a slope on the edge of a slope nearest trees, so if the snow pack fails, a rider can jet off the slide path into the trees.**
  - **If someone is caught in a slide, the other people in the party can watch to determine approximately where the person is buried in order to get them out as quickly as possible.**

WINTER RECREATION SAFETY

- **Avalanche!**
  - **Despite the fact that snowmobilers are leading in avalanche deaths, noise is not considered an avalanche trigger.**
  - **Avalanches are almost always triggered by people. Snow machines are more powerful and capable of going higher and further than a decade ago and snowmobilers, in some ways, are considered slightly behind the safety times.**

WINTER RECREATION SAFETY

- **Avalanche!**
  - **Take an avalanche course if you plan to spend any time recreating in the backcountry.**
    - **www.avalanche.com.**